



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,129	09/10/2003	David G. Therrien	25452-013	3559

30623 7590 04/05/2007
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER

ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
----------	--------------

2164

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/659,129

Applicant(s)

THERRIEN ET AL.

Examiner

Charles D. Adams

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1-5-07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to communications filed on 5 January 2007, claims 1, 4, 10-11, and 17 are amended. Claims 1-18 are pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 7-10 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Parker et al. (US Patent 6,847,982).

As to claim 7, Parker et al. teaches:

Storing a version of a first file within a set of files on a primary disk storage system (see 7:24-35);

Examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files (see 7:24-35 and 8:17-25);

Replicating the version of the first file to repositories specified by the protection policy, the specified repositories including at least one local repository and at least one remote repository (see 7:44-67).

As to claim 8, Parker et al. teaches wherein the version of the first file is the first version (see 8:17-25. New files can be created).

As to claim 9, Parker et al. teaches applying reverse delta compression to successive versions of the first file as new versions are stored in the repositories (see 9:54-10:4);

As to claim 10, Parker et al. teaches wherein applying reverse delta compressions to successive version of the first file comprises

Creating a second version of the first file (see 9:54-10:4), wherein in response to said creating:

Replacing the first version of the first file replicated in the local repository with a reverse delta compressed version representing a difference between the first version and the second version and replicating the second version in the local repository (see 9:54-10:4)

Transmitting a difference file to the remote repository (see 17:18-26. The Vault transmits client information, which is a difference file);

In the remote repository, applying the difference file to the previous version of the file (see 17:18-26. The Client database is updated with the client file information) to store the second version and a reverse delta compressed version representing the difference between the first file version and the second version (see 17:18-26 and 6:42-59. A reverse delta can be sent with the data with the shipping container as well as a forward delta).

As to claim 14, Parker et al. teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified backup frequency (see 8:17-25 and 9:6-11).

As to claim 15, Parker et al. teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified type of compression (see 6:42-59. A reverse delta can be chosen along with a forward delta to send to the library).

As to claim 16, Parker et al. teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining a specified caching level (see 9:12-14. A storing (caching) frequency level is determined and chosen).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2, 6 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dion et al. (US Patent 6,163,856) in view of Whiting et al. (US Patent 5,778,395).

As to claim 1, Dion et al. teaches a filter driver operative to intercept input or output activity initiated by client file requests and to maintain a list of modified and created files since a prior backup (see 9:37-55);

A file system in communication with the filter driver and operative to store client files (see 9:1-22 and 9:49-55);

Dion et al. does not teach a policy cache operative to store a protection policy associated with a set of files;

Whiting et al. teaches a policy cache operative to store a protection policy associated with a set of files (see 7:59-8:20);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Dion et al. by the teaching of Whiting et al., since Whiting et al. teaches that "the present invention provides a lower-cost backup solution that simultaneously reduces network band-width consumption, decreases the time required for backup and restore, allows for central administration, automates the backup process at user workstations, provides access to all versions of previous files without any administrator intervention, and permits the user to access files from the backup directly using his own applications" (see 4:62-5:2).

Dion et al. as modified teaches a mirror service in communication with the filter driver and with the policy cache, the mirror service operative to prepare modified and created files in the set of files to be written to a repository as specified in the protection policy associated with the set of files (see Whiting et al. 7:59-8:20);

A fileserver API coupled to the mirror service and operative to communicate with a repository (see Whiting et al. 7:59-8:20 and Dion et al. 9:37-55);

A fileserver file transfer module in communication with the file system and operative to transfer files from the file system to at least one repository (see Whiting et al. 7:59-8:20).

As to claim 2, Dion et al. as modified teaches wherein the mirror service directs new versions of an existing file to the repository to which prior versions of the file were written (see Whiting et al. 7:59-8:20. Each modified file is updated to a user directory, which is where the previous version was written).

As to claim 6, Dion et al. as modified teaches wherein the protection cache is operative to define which repositories are used (see Whiting et al. 7:59-8:20), how often data protection occurs (see Whiting et al. 33:49-51. How often the Agent runs can be changed), how many replicas are maintained within each repository (see Whiting et al. 8:16-20, only one replica of each file. If there is more than one replica in the system, then a pointer is used to refer to the file to save space), and how modifications to share data are maintained (see Dion et al. 15:1-8. The servers can be configured to share data with different degrees of coherency).

As to claim 17, Dion et al. teaches:

A fileserver having:

Filter driver means for intercepting input or output activity initiated by client file requests and for maintaining a list of modified and created files since a prior backup (see 9:37-55);

File system means in communication with the filter driver, the file system means for storing client files (see 9:1-22 and 9:49-55);

Dion et al. does not teach policy cache means for storing a protection policy associated with a set of files;

Whiting et al. teaches policy cache means for storing a protection policy associated with a set of files (see 7:59-8:20);

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Dion et al. by the teaching of Whiting et al., since Whiting et al. teaches that "the present invention provides a lower-cost backup solution that simultaneously reduces network band-width consumption, decreases the time required for backup and restore, allows for central administration, automates the backup process at user workstations, provides access to all versions of previous files without any administrator intervention, and permits the user to access files from the backup directly using his own applications" (see 4:62-5:2).

Dion et al. as modified teaches mirror service means in communication with the filter driver means and with the policy cache means, the mirror service means for preparing modified and created files in the set of files to be written to a repository as specified in the protection policy associated with the set of files (see Whiting et al. 7:59-8:20).

As to claim 18, Dion et al. as modified teaches:

A fileserver API coupled to the mirror service means and operative to communicate with a repository (see Whiting et al. 7:59-8:20 and Dion et al. 9:37-55);
and

A fileserver file transfer module in communication with the file system means and operative to transfer files from the file system to at least one repository (see Whiting et al. 7:59-8:20).

6. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dion et al. (US Patent 6,163,856) in view of Whiting et al. (US Patent 5,778,395), and further in view of Belknap et al. (US Pre-Grant Publication 2003/0070001).

As to claim 3, Dion et al. teaches the system of claim 1.

Dion et al. does not teach a location cache in communication with the mirror service and operative to indicate which repository should receive an updated version of an existing file;

Belknap et al. teaches a location cache in communication with the mirror service and operative to indicate which repository should receive an updated version of an existing file (see paragraphs [0063]-[0064]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have further modified Dion et al. by the teaching of Belknap et al., since Belknap et al. teaches "to provide a common interface to media servers which conceals the media server specific device commands from applications which interact with the media servers included within the system" (see paragraph [0006]).

Dion et al. as modified teaches a location manager coupled to the location cache and operative to update the location cache when the system writes a new file to a specific repository node (see Belknap et al. paragraph [0069]).

As to claim 4, Dion et al. as modified teaches:

A local repository having (see Whiting et al. 7:59-8:20. Whiting et al. transfers items from a local database to a remote one):

A local repository node API adapted for communicating with the fileserver API (see Whiting et al. 7:59-8:20);

A local repository file transfer module in communication with the fileserver file transfer module and adapted for receiving files from the fileserver file transfer module (see Whiting et al. 7:59-8:20);

A data mover in communication with the local repository API and operative to supervise a replication of files from the fileserver to the local repository (see Whiting et al. 7:59-8:20); and

A protection policy component in communication with the data mover and operative to determine whether new versions of existing files should be compressed and whether older versions of existing files should be maintained (see Whiting et al. 7:59-8:20 and 34:24-36).

As to claim 5, Dion et al. as modified teaches:

A remote repository having (see Dion et al. 9:1-36):

A remote repository node API adapted for communicating with the local repository API (see Dion et al. 9:1-36);

A remote repository file transfer module in communication with the local file transfer module and adapted for receiving files from the local file transfer module (see Dion et al. 9:37-55);

A data mover in communication with the remote repository API and operative to supervise the replication of files from the local repository to the remote repository (see Dion et al. 9:37-55); and

A protection policy component in communication with the data mover and operative to determine whether new versions of existing files should be compressed and whether older versions of existing files should be maintained (see Whiting et al. 7:59-8:20 and 34:24-36).

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker et al. (US Patent 6,847,982) in view of Santry et al. ("Deciding when to forget in the Elephant file system").

As to claim 11, Parker et al. teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining the location of repositories (see Parker et al. 10:36-55)

Parker et al. does not teach and a number of replicas for each repository.

Santry et al. teaches a number of replicas for each repository (see page 113, section 3.3. Only one version is kept).

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to have modified Parker et al. by the teaching of Santry et al., since Santry et al. teaches that "old versions of files are automatically retained and storage is

managed by the file system. Users specify retention policies for individual files, groups of files, or directories. The goal of Elephant is to allow users to retain important old versions of all of their files. User actions such as delete and file write are thus easily revocable by rolling back a file system, a directory, or an individual file to an earlier point in time" (see page 111, last paragraph of section 1).

As to claim 12, Parker et al. teaches the method of claim 7.

Parker et al. does not teach wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining whether to purge a file from repositories after the file has been deleted from a set of files.

Santry et al. teaches wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining whether to purge a file from repositories after the file has been deleted from a set of files (see page 113, section 3.5 and 115, section 4.2.3 (it is determined whether a file should be deleted)).

As to claim 13, Parker et al. teaches the method of claim 7.

Parker et al. does not teach wherein examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files comprises:

Determining whether to keep version histories (see page 113, section 3.2).

Response to Arguments

8. Applicant's arguments filed 5 January 2007 have been fully considered but they are not persuasive.

Applicant argues that Parker et al. does not examine a protection policy and determine where and how to protect files. In response to this argument, Examiner notes that Parker et al. teaches to determine which files are "critical to their particular business function and capture only those files" (see 7:28-32). It is also noted that Parker et al. teaches instructions to forward changed files to the Akaskic Vault for storage and processing, which in turn forwards files to an offsite Library system (see 7:34-35 and 7:53-59). This is a "protection policy associated with the set of files", as the method in Parker et al. describes how to backup files. The Akaskic Vault and the Offsite Library fully meet the claim limitation of "the specified repositories including at least one local repository and at least one remote repository".

Applicant argues that Parker et al.'s method "is different than replicating the version of the first file to repositories specified by the protection policy". In response to this argument, Examiner notes that Parker et al. explicitly says "all captured files are forwarded to the Akaskic Vault for storage and processing" (see 7:34-35) and "At regular intervals, the Vault sends copies of the latest file captures to an offsite Library system" (see 7:53-55).

Applicant argues that the teachings of Dion et al. "does not maintain a list of modified and created files". In response to this argument, Examiner notes Dion et al. 11:18-37 teaches the creation of a list of modified and created files since a prior backup (a log file including records, "each including enough information about a file system request committed to the disk to allow the request to be satisfied by the remote server"), and 16:65-17:9 teaches wherein information stored in the log is a file write.

Applicant argues that Dion et al. "also fails to disclose, teach, or suggest, *inter alia*, a mirror service in communication with the filter driver and with the policy cache, the mirror service operative to prepare modified and created files in the set of files to be written to a repository as specified in the protection policy associated with the set of files, a fileserver API coupled to the mirror service and operative to communication with a repository, and a fileserver file transfer module in communication with the file system and operative to transfer files from the file system to at least one". In response to this argument, it is noted that Dion et al. is only one of those features. Dion et al. is relied

Art Unit: 2164

upon to teach “a fileserver API coupled to the mirror service and operative to communicate with a repository” in view of Whiting et al. Dion et al. teaches to use the “PXFS cluster file system” and “generic Unix networking utilities” (see 9:37-55).

Applicant argues that “Whiting fails to disclose, teach, or suggest a policy cache operative to store a protection policy associated with a set of files”. In response to this argument, Examiner notes that Whiting et al. teaches a protection policy (files are analyzed to figure out which group they should belong in, and groups are treated differently, see 7:59-20). Also see Figure 3, 7:59-8:20 and 27:23-26, user preferences are stored, wherein the preferences define a protection policy.

In response to applicant's argument that Dion et al. and Whiting et al. are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both inventions are in the computer arts, and both inventions clearly deal with backing up data from a source to another location.

In response to Applicant's argument that there is no motivation to combine the two references, Examiner notes that a motivation was provided in the Office Action dated 6 September 2006:

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Dion et al. by the teaching of Whiting et al., since Whiting et al. teaches that “the present invention provides a lower-cost backup solution that simultaneously reduces network band-width consumption, decreases the time required for backup and restore, allows for central administration, automates the backup process at user workstations, provides access to all versions of previous files without any administrator intervention, and permits the user to access files from the backup directly using his own applications” (see 4:62-5:2).

Applicant argues that “Belknap fails to disclose, teach, or suggest, *inter alia*, a filter driver operative to intercept input or output activity initiated by client file requests and to maintain a list of modified and created files since a prior backup, a file system in communication with the filter driver and operative to store client files, a policy cache operative to store a protection policy associated with a set of files”. However, Examiner notes that Belknap et al. is not relied upon to teach those features.

Applicant argues that “Santry et al. fails to disclose, teach, or suggest, *inter alia*, examining a protection policy associated with the set of files to determine where and how to protect files associated with the set of files, and replicating the version of the first file to repositories specified by the protection policy, the specified repositories including at least one local repository and at least one remote repository”. However, Examiner notes that Santry et al. is not relied upon to teach those features.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2164

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Charles Adams
AU 2164

ay


CHARLES RONES
SUPERVISORY PATENT EXAMINER